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July 31, 1972

Honorable William Proxmire
Chairman, Subcommittee on Priorities
and Economy in Government
Joint Economic Committee
United States Senate

Dear Mr. Chairman:

DEPARTMENT OF STATE A/CDC/MR	
REVIEWED BY <i>Malcolm Jensen</i>	DATE <i>7/27/72</i>
RDS ☐ or XDS ☐ EXT. DATE _____	
TS AUTH. _____	REASON(S) _____
ENDORSE EXISTING MARKINGS ☐	
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The Secretary has asked me to respond to your inquiry as to the compatibility of a new United States air defense system--the Army's SAM-D program--with the terms of the recently concluded ABM Treaty. I understand that a similar inquiry has been sent to Secretary of Defense Laird and that the Defense Department is answering your technical questions.

SAM-D is an advanced surface-to-air missile system, which is in early engineering development. The primary mission of SAM-D is air defense of the field army against high-flying supersonic enemy aircraft and air-launched missiles.

The ABM Treaty does prohibit the testing of SAM-D in an ABM mode, and the development and deployment of SAM-D as an ABM system. The US has no intention either to test or to deploy SAM-D in an ABM mode. The ABM Treaty does not preclude continuing development or deployment of SAM systems.

I hope the above information will be helpful to you and the Committee.

Sincerely,

/s/ *OK mw*
David M. Abshire
Assistant Secretary for
Congressional Relations

PM:DCA:RAMartin/seg/ema

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Clearances: See attached blue

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EXECUTIVE DIRECTOR

DECEMBER 30
Congress of the United States
JOINT ECONOMIC COMMITTEE

(CREATED PURSUANT TO SEC. 5(a) OF PUBLIC LAW 304, 79TH CONGRESS)

WASHINGTON, D.C. 20510

June 26, 1972

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ACTION
is assigned to

PM

The Honorable William P. Rogers
Secretary of State
Washington, D. C. 20520

Dear Mr. Secretary:

One purpose of the recently concluded ABM Treaty with the Soviet Union was to place clear restrictions not only on ABM systems as commonly understood, but also on other systems, such as air defense systems, which could be made to perform an ABM role. On several occasions during the past few years, Administration spokesmen have expressed concern that the Soviets' Talinn Line air defense system might be upgraded for just such a role.

My purpose in writing today is to inquire as to the compatibility of a new United States air defense system -- the Army's SAM-D program -- with the terms of the recently concluded Treaty.

Several Defense Department witnesses have told Congress in recent years that SAM-D will have some capability not only against aircraft, but also against tactical and strategic ballistic missiles. The following are two examples of the testimony in this regard which has appeared on the public record:

(1) "SAM-D would be capable of defeating tactical ballistic missiles with ranges less than (deleted), air to surface missiles, and sub-launched cruise missiles. This system represents a radically new approach to . . . air defense. The application of the latest advances in miniaturized electronic circuitry, computer technology, radio data link techniques, and the phased array radar concept will give the system a mobility and multimission capability never before achieved in an air defense system." Lt. Gen. A. W. Betts, Army Chief of Research and Development, to the Senate Armed Services Committee, March 5, 1970.

(2) Question: "What capability will the SAM-D have against a CONUS SLBM and ICBM threat?"

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/S/ WILLIAM PROXMIRE, Chairman
Subcommittee on priorities and
Economy in Government.

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Answer: "Based on the results of studies completed to date, the SAM-D system used as a defense against strategic ballistic missiles (even if SAM-D is modified) would be critically sensitive to variations in a number of threat parameters. To obtain a capability against a reasonable range of possible threat characteristics would probably require SAM-D to be supported by the SAFEGUARD Missile Site Radars. Therefore, SAM-D may be useful as a possible future augmentation to SAFEGUARD should the need arise, but it does not appear by itself to provide a viable defense system."

Question by Senator John C. Stennis, and reply by Director of Defense Research and Engineering, Dr. John S. Foster, Jr., before the Senate Armed Services Committee, February 26, 1970.

In light of these acknowledged capabilities, it appears to me that continued development, testing, or deployment of SAM-D could violate the ABM Treaty. Here are the reasons why.

First, Article II(1) of the Treaty defines an ABM system as any "system to counter strategic ballistic missiles" which includes interceptor missiles or radars "constructed and deployed for an ABM role, or of a type tested in an ABM mode."

It would seem to me that a system with any capability against strategic ballistic missiles, however limited, would be covered by this definition. And if SAM-D is an ABM system within the meaning of the Treaty, several things follow.

Its deployment in a nation-wide bomber defense network would be a violation of Article I(2)'s prohibition against the deployment of, or laying a base for, a nation-wide ABM system.

Its further development, testing, or deployment would be in violation of Article V(1)'s prohibition against mobile land-based ABM systems.

And its deployment in defense of NATO would be a violation of Article IX's prohibition against the transfer to other countries or the deployment outside the United States of ABM systems or their components.

Second, even if SAM-D is not covered by Article II(1)'s definition of an ABM system, it would appear covered by Article VI

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of the Treaty. Under Article VI, the United States undertakes not to give non-ABM interceptor missiles or radars any ABM capabilities and not to test such missiles or radars in an ABM mode.

It would appear that this provision -- the language of which closely parallels that of Article II(1) -- was included in the Treaty specifically to forestall arguments that a system like SAM-D was not a true ABM system. This impression is strengthened by your statement, in the State Department interpretation of the Treaty submitted to the President on June 10, 1972, that this undertaking "would, for example, prohibit the modification of air defense missiles (SAMS) to give them a capability against strategic ballistic missiles."

Finally, it appears that deployment of SAM-D and its phased-array radar in Europe might violate Article VI's prohibition against the deployment of radars for early warning of strategic ballistic missile attack anywhere but on the borders of one's own nation.

It is difficult to believe that SAM-D and its limited capabilities against ballistic missiles were not specifically considered by both sides during the recent SALT negotiations. If SAM-D was considered, however, and a decision made to permit its deployment, this is not made clear anywhere in the Treaty or its supporting documents.

I have tried nonetheless to anticipate the arguments which might be made in support of a contention that SAM-D was not covered by the Treaty. Unfortunately, I find such arguments quite unpersuasive.

It might be argued, for example, that while SAM-D has a capability against ballistic missiles, its capability is against tactical ballistic missiles only and does not extend to strategic ballistic missiles as the latter term is used in the Treaty's Article II(1) definition of an ABM system.

But no definition of strategic ballistic missile is actually given in the ABM Treaty itself, and it is difficult to believe that anyone would subscribe to a definition which excluded the CONUS SLBM and ICBM threat against which, according to Dr. Foster, SAM-D would have at least a limited capability.

Moreover, the United States has made the unilateral statement that the phrase "tested in an ABM mode" covers the situation when "an interceptor missile is flight tested against a target vehicle which has a flight trajectory with characteristics of a strategic ballistic missile flight trajectory." It seems arguable to me that the flight trajectories of "tactical" and "strategic" ballistic missiles are sufficiently alike in their characteristics as to be covered by this statement.

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Turning to another point, one might argue that Agreed Understanding D is, in any event, sufficient evidence that SAM-D's deployment in Europe would not violate Article VI's prohibition against the deployment of radars for early warning attack outside one's own borders.

Agreed Understanding D does constitute a commitment that the Parties will not deploy phased-array radars having a potential exceeding "three million watts" except under certain conditions. It is also true that SAM-D's phased-array radar does have a potential well within that limit. But Agreed Understanding D does not specifically state that all phased-array radars within that limit are automatically in compliance with the early warning limitation of Article VI.

I believe it is important to clarify the question of SAM-D's compatibility with the ABM Treaty prior to congressional ratification. A failure to do so could spark controversy later and complicate the second round of the SALT negotiations.

Accordingly, I would appreciate it if you would address yourself to the issues raised by this letter, with particular attention to the following questions:

- (1) Does SAM-D's capability against ballistic missiles bring it within the scope either of Article II(1)'s definition of an ABM system or provision (A) of Article VI, as interpreted by the United States?
- (2) If SAM-D is within the scope of Article II(1) or provision (A) of Article VI as interpreted by the United States, have any plans been made for termination of the program, and if not, why not?
- (3) Would it be feasible to develop SAM-D in such a way that its capability against ballistic missiles was deleted? If so, what consideration is being given to this approach, and what are the arguments against it?
- (4) If SAM-D's capability against ballistic missiles does not bring it within the scope of Article II(1) or provision (A) of Article VI as interpreted by the United States, what is the reasoning by which this conclusion is reached?
- (5) As interpreted by the United States, what is the meaning of the term "strategic ballistic missiles" as used in Article II(1), and if the term is meant to exclude "tactical" ballistic missiles, which of the following

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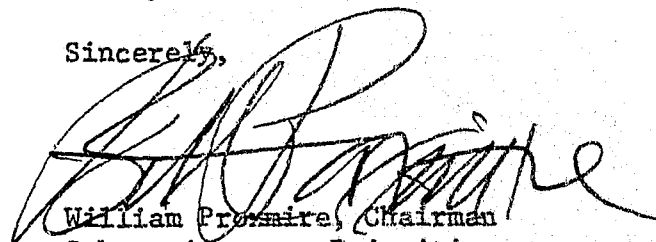
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classes of Soviet missiles is, in fact, excluded -- SRBMs? MRBMs? IRBMs? ICBMs? SLBMs? Is it true that SAM-D would have no capability whatsoever to intercept "strategic ballistic missiles" as so defined?

- (6) What is the meaning of the phrase "flight trajectory with characteristics of a strategic ballistic missile flight trajectory" as used in the unilateral statement of the United States as to the meaning of the phrase "tested in an ABM mode?"
- (7) Would deployment of SAM-D in Europe violate Article VI's prohibition against deployment of radars for early warning of strategic ballistic missile attack outside national boundaries, as interpreted by the United States? Why or why not?
- (8) Was SAM-D specifically discussed during negotiating sessions with the Soviets? What certainty do we have that the Soviets' interpretation of its compatibility with the ABM Treaty is identical to ours?

I apologize for the length of this letter and the detailed nature of the questions raised. I think it important, however, that considerable additional light be shed on this very complex subject. I would very much appreciate a reply to my questions prior to the start of Senate floor debate on the ABM Treaty.

Sincerely,



William P. Rogers, Chairman
Subcommittee on Priorities
and Economy in Government

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DIRECTOR OF DEFENSE RESEARCH AND ENGINEERING
WASHINGTON, D. C. 20301

24 JUL 1972

Honorable William Proxmire
Chairman
Subcommittee on Priorities
and Economy in Government
Joint Economic Committee
Congress of the United States
Washington, D. C. 20510

Dear Mr. Chairman:

I have been asked to answer your letter of June 26, 1972, concerning the relationship of SAM-D and SALT. As you are well aware, DoD has been concerned about the use of SAM's in an ABM mode for a considerable period of time. The DoD efforts in this regard have been focused on the potential degradation of the U.S. deterrent if the Soviets upgraded their extensive SAM deployments to defend urban areas.

Based on this concern, substantial analysis within DoD has been directed at understanding the interrelationship among SAM equipment limitations, the technical limitations on upgrading SAM's, and the effectiveness of various offense responses to counter upgraded SAM's. During the negotiation of the ABM Treaty, both sides were well aware of SAM-D, and the Treaty does not preclude this system. However, the Treaty precludes testing such systems as SAM-D in an ABM mode and we will not do so.

The answers to your specific questions are provided in the attachment. If I can be of further assistance in this matter, please let me know.

Sincerely,

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QUESTIONS OF CHAIRMAN PROXMIRE, SUBCOMMITTEE ON
PRIORITIES AND ECONOMY, IN GOVERNMENT, JOINT ECONOMIC
COMMITTEE WITH ANSWERS, SUBJECT: SAM-D SALT RELATIONSHIP

(1) Does SAM-D's capability against ballistic missiles bring it within the scope either of Article II(1)'s definition of an ABM system or provision (A) of Article VI, as interpreted by the United States?

The SAM-D program is not in conflict with either Article II(1) or Article VI (a) of the ABM Treaty.

(2) If SAM-D is within the scope of Article II(1) or provision (A) of Article VI as interpreted by the United States, have any plans been made for termination of the program and, if not, why not?

As stated in (1) above, the SAM-D program is not in conflict with either of these provisions, and thus does not need to be terminated.

(3) Would it be feasible to develop SAM-D in such a way that its capability against ballistic missiles was deleted? If so, what consideration is being given to this approach, and what are the arguments against it?

If the SAM-D program were redirected so that the system had no capability against any ballistic missile, even short range tactical ballistic missiles, the system would not be operationally effective in an air defense role. This is true primarily because there is an overlap in the attack characteristics between tactical ballistic missiles, aircraft, and aircraft-launched air-to-ground missiles. Thus, deletion of a capability against all ballistic missiles would deny a capability against aircraft and aircraft-launched missiles. There is, however, a distinct separation in attack characteristics between the above class of threats and long range strategic ballistic missiles. No consideration is being given to reducing SAM-D performance capabilities.

(4) If SAM-D's capability against ballistic missiles does not bring it within the scope of Article II(1) or provision (A) of Article VI as interpreted by the United States, what is the reasoning by which this conclusion is reached?

Simply stated, SAM-D is not in conflict with Articles II(1) or Article VI (a) for the following reasons:

SAM-D is a tactical defense system, not an ABM system. It is designed to counter tactical ballistic missiles.

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SAM-D will not be tested in an ABM mode.

(5) As interpreted by the United States, what is the meaning of the term "strategic ballistic missiles" as used in Article II(3), and if the term is meant to exclude "tactical" ballistic missiles, which of the following classes of Soviet missiles are, in fact, excluded - SRBMs? MRBMs? IRBMs? ICBMs? SLEMs? Is it true that SAM-D would have no capability whatsoever to intercept "strategic ballistic missiles" as so defined?

The term "strategic ballistic missiles" is meant to exclude "tactical" ballistic missiles. The distinction between these two classes of missiles results from the different flight characteristics of the re-entry vehicle, e.g., velocity, which is related to the range of the missile, and trajectory altitude. A strategic ballistic missile operated at or near maximum range reaches an altitude well above the atmosphere and a peak flight velocity of about four to seven kilometers per second. By comparison, other ballistic missiles operate at lower velocities and altitudes which are in or near the aircraft regime.

The SAM-D system does not have the capacity to intercept strategic ballistic missiles and will not be tested in an ABM mode. SAM-D, therefore, will not have the operational capability to intercept strategic ballistic missiles in flight trajectory.

(6) What is the meaning of the phrase "flight trajectory with characteristics of a strategic ballistic missile flight trajectory" as used in the unilateral statement of the United States as to the meaning of the phrase "tested in an ABM mode"?

As stated in my testimony before the House Armed Services Committee on 13 June 1972, this phrase means, in my view, a flight trajectory with a maximum velocity exceeding two kilometers per second, or a maximum altitude exceeding 40 kilometers.

(7) Would deployment of SAM-D in Europe violate Article VI's prohibition against deployment of radars for early warning of strategic ballistic missile attack outside national boundaries, as interpreted by the United States? Why or why not?

SAM-D is neither an ABM system, nor is its radar a system to provide early warning of strategic ballistic missile attack and, therefore, its deployment is not restricted by Article VI.

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(8) Was SAM-D specifically discussed during negotiating sessions with the Soviets? What constraints do we have that the Soviets interpretation of its compatibility with the ABM Treaty is identical to ours?

SAM-D was not discussed with the Soviets. The ABM Treaty places no limits on air defense systems per se. However, certain collateral constraints have been placed on air defense systems as an extension of the limits placed on ABM systems. These include limits on power aperture product of phased-array radars and the obligation not to give air defense systems an ABM capability or to test air defense systems in an ABM role.

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